

Appl. No.: 10/611,506  
Amdt. Dated: 7/28/05  
Reply to Office Action of: July 8, 2005

The listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (original) A method of making optical fluoride crystal feedstock, comprising:  
loading a fluoride raw material in powder form into a flexible mold; and  
applying isostatic pressure to the mold to compress the fluoride raw material.
2. (original) The method of claim 1, further comprising mixing a fluorinating agent  
in powder form with the fluoride raw material prior to applying isostatic pressure  
to the mold.
3. (original) The method of claim 1, wherein isostatic pressure is applied to the mold  
at ambient temperature.
4. (original) The method of claim 1, further comprising evacuating air out of the  
mold prior to applying isostatic pressure to the mold.
5. (original) The method of claim 1, further comprising melting the compressed  
fluoride raw material and solidifying the melt to form a solid pre-melt body.
6. (original) The method of claim 5, further comprising crushing the solid pre-melt  
body and storing the crushed pre-melt in an inert atmosphere.
7. (original) The method of claim 1, wherein the fluoride raw material comprises a  
metal fluoride selected from the group consisting of  $\text{CaF}_2$ ,  $\text{BaF}_2$ ,  $\text{MgF}_2$ ,  $\text{SrF}_2$ ,  $\text{LiF}$ ,  
 $\text{NaF}$ ,  $\text{M}_3\text{AlF}_6$ , and  $(\text{M}_1)_x(\text{M}_2)_{1-x}\text{F}_2$ , and mixtures thereof, and where M is selected  
from the group consisting of Li, Na, K, Rb, and Cs,  $\text{M}_1$  and  $\text{M}_2$  are selected from  
the group consisting of Ca, Br, Mg, Sr, Li, Na, and lanthanide series metal  
fluorides, and x is in a range from 0 to 1.
8. (original) The method of claim 7, wherein the fluoride raw material further  
comprises a lanthanide series metal fluoride mixed with the metal fluoride.

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9. (original) The method of claim 1, further comprising storing the compressed fluoride raw material in an inert atmosphere.
10. (original) A method of making an optical fluoride crystal, comprising:  
loading a fluoride raw material in powder form into a flexible mold;  
applying isostatic pressure to the mold to compress the fluoride raw material;  
loading the compressed fluoride raw material into a crucible; and  
growing a crystal by melting the compressed fluoride raw material inside the crucible and moving the crucible through a thermal gradient.
11. (original) The method of claim 10, further comprising mixing a fluorinating agent in powder form with the fluoride raw material prior to applying isostatic pressure to the mold.
12. (original) The method of claim 10, wherein isostatic pressure is applied to the mold at ambient temperature.
13. (original) The method of claim 10, further comprising evacuating air out of the mold prior to applying isostatic pressure to the mold.
14. (original) The method of claim 10, wherein the fluoride raw material comprises a metal fluoride selected from the group consisting of  $\text{CaF}_2$ ,  $\text{BaF}_2$ ,  $\text{MgF}_2$ ,  $\text{SrF}_2$ ,  $\text{LiF}$ ,  $\text{NaF}$ ,  $\text{M}_3\text{AlF}_6$ , and  $(\text{M}_1)_x(\text{M}_2)_{1-x}\text{F}_2$ , and lanthanide series metal fluorides, and mixtures thereof, and where M is selected from the group consisting of Li, Na, K, Rb, and Cs,  $\text{M}_1$  and  $\text{M}_2$  are selected from the group consisting of Ca, Br, Mg, Sr, Li, Na, and lanthanide series metal fluorides, and x is in a range from 0 to 1.
15. (original) The method of claim 14, wherein the fluoride raw material further comprises a lanthanide series metal fluoride mixed with the metal fluoride.
16. (original) A method of making an optical fluoride crystal, comprising:  
loading a fluoride raw material in powder form into a flexible mold;  
applying isostatic pressure to the mold to compress the fluoride raw material;  
melting the compressed fluoride raw material and solidifying the melt to form a solid pre-melt body;

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crushing the solid pre-melt body; and  
growing a crystal by melting the crushed pre-melt and moving the melt through a thermal gradient.

17. (original) The method of claim 16, further comprising mixing a fluorinating agent in powder form with the fluoride raw material prior to applying isostatic pressure to the mold.
18. (original) The method of claim 16, wherein isostatic pressure is applied to the mold at ambient temperature.
19. (original) The method of claim 16, further comprising evacuating air out of the mold prior to applying isostatic pressure to the mold.
20. (original) The method of claim 16, wherein the fluoride raw material comprises a metal fluoride selected from the group consisting of  $\text{CaF}_2$ ,  $\text{BaF}_2$ ,  $\text{MgF}_2$ ,  $\text{SrF}_2$ ,  $\text{LiF}$ ,  $\text{NaF}$ ,  $\text{M}_3\text{AlF}_6$ , and  $(\text{M}_1)_x(\text{M}_2)_{1-x}\text{F}_2$ , and lanthanide series metal fluorides, and mixtures thereof, and where M is selected from the group consisting of Li, Na, K, Rb, and Cs,  $\text{M}_1$  and  $\text{M}_2$  are selected from the group consisting of Ca, Br, Mg, Sr, Li, Na, and lanthanide series metal fluorides, and x is in a range from 0 to 1.